UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
Denver, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

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Ref: 8EPR-N
Helen Hankins, State Director
BLM Colorado State Office
2850 Youngfield Street
Lakewood, CO 80215

John Russell, RMP Team Leader
Bureau of Land Management
Colorado River Valley Field Office
2300 River Frontage Road
Silt, CO 81652

Re: Colorado River Valley Field Office Draft Resource Management Plan and Environmental Impact Statement
CEQ # 20110307

Dear Ms. Hankins and Mr. Russell:

In accordance with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C), and Section 309 of the Clean Air Act, 42 U.S.C. Section 7609, the U.S. Environmental Protection Agency Region 8 (EPA) has reviewed the Bureau of Land Management's (BLM) Colorado River Valley Field Office Draft Resource Management Plan and Environmental Impact Statement (Draft RMP/EIS).

The EPA appreciates having had the opportunity to work more closely with the BLM prior to the public release of the Draft RMP/EIS. These discussions allowed us to work through a number of major elements of initial concern with the air and water quality analyses. It is evident from our review that BLM put extensive effort into clarifying, adding detail to, and ultimately improving this draft. The EPA greatly appreciates this. In providing the following additional comments, we remains committed to work with BLM to seek ways to address them.

Background

The Colorado River Valley Field Office (CRVFO) planning area in western Colorado consists of approximately 2.8 million acres of land. The Draft RMP/EIS describes and analyzes four alternatives for managing approximately 505,000 acres of federal surface lands and resources as well as an additional 202,000 acres of federal mineral estate administered by the BLM. The CRVFO (formerly known as the Glenwood Springs Field Office) spans portions of Eagle, Garfield, Mesa, Pitkin and Routt counties. The plan alternatives include: Alternative A (no action alternative), Alternative B (mixed emphasis and the agency's Preferred Alternative), Alternative C (conservation emphasis alternative) and Alternative D (resource use emphasis alternative).

Alternative B, the Preferred Alternative, provides two options for managing river segments identified as suitable for inclusion in the National Wild and Scenic River System (NWSRS). Section 5(d)(1) of the Wild and Scenic Rivers Act (WSRA) directs Federal agencies to consider potential wild and scenic rivers when undertaking land management plans. Under Alternative B1, the BLM would find four segments suitable for inclusion in the NWSRS, including two segments of Deep Creek (Segments 2 and 3) and two segments of the Colorado River (Segments 6 and 7). Under Alternative B2, the BLM would defer a determination of suitability for the two Colorado River segments and recommend adopting and implementing the Upper Colorado River Wild and Scenic Stakeholder Group Management Plan (SG Plan), while finding the two Deep Creek segments suitable for inclusion in the NWSRS. The BLM has not yet identified which option will be included in the Preferred Alternative; therefore, the EPA is required to rate both.

The EPA's Comments and Recommendations

The following comments focus on the water resources, wild and scenic rivers (WSRs), air resources, and areas of critical environmental concern (ACEC). Along with an explanation of these comments, we offer recommendations on how the BLM might address them. In addition, we have also provided the enclosed "EPA Detailed Comments". These offer additional specific comments pertaining to surface water and groundwater resource concerns and recommendations for stipulations BLM could apply to fluid minerals leasing (Attachment 1), as warranted based on the proximity of planned development to sensitive resources.

A. Water Resources

1. Characterization of Drinking Water Sources

The draft document does not present all drinking water sources located within the CRVFO planning area. The EPA recommends that all sources of drinking water be characterized in the document so that the reader can fully understand the extent and location of these important resources. This recommendation can be addressed by including a map illustrating locations of source water protection zones (both groundwater and surface water) for municipal supply. We recommend contacting John Duggan, Source Water Assessment and Protection Program Coordinator, at the Colorado Department of Public Health and Environment (CDPHE) at (303) 692-3534 for assistance obtaining this information.

2. Mitigation Measures to Protect Groundwater

Given the extent of potential development within the CRVFO planning area combined with the high levels of existing development, EPA is particularly interested in BLM's approach to protecting drinking water. The EPA therefore recommends that the Draft RMP/EIS provide additional information about the mitigation measures that could be implemented to protect groundwater resources so that the adequacy of the best management practices (BMPs) can be assessed (Appendix G, Best Management Practices, currently identifies that it will be completed for the Final RMP/EIS). This additional information identified below will facilitate full disclosure about how the Conditions of Approval (COAs) and BMPs could be employed to effectively mitigate significant impacts. The EPA suggests that the Final RMP/EIS include the following measures to address this concern:

- A list of the specific BMPs that BLM may require in order to protect groundwater resources
- An explanation of the circumstances under which the BMPs would be applied (e.g., proximity to wetlands, shallow water aquifers, or water wells)
- An explanation of how BLM would monitor compliance with these BMPs

Our recommendations for specific groundwater and surface water protection measures are attached (Attachment 2). We provide these recommendations with the understanding that their appropriateness will depend on the location of development activity relative to sensitive water resources and knowledge that their applicability should be evaluated carefully to avoid inadvertently creating unintended environmental impacts.

3. Groundwater Monitoring

Monitoring is a necessary element of evaluating whether mitigation measures are protecting groundwater resources. EPA strongly recommends that this RMP/EIS require future project-level baseline and periodic long-term water quality monitoring of private wells located within one mile of a project area (for example, within one mile of a well pad). The BLM Pinedale Anticline project and the U.S. Forest Service Eagle Prospect project in Wyoming are examples where similar monitoring programs have been established.

Baseline groundwater monitoring may also be a useful means by which to identify the depths and extent of aquifers used or that could be used for drinking water, referred to as Underground Sources of Drinking Water (USDWs). A USDW is defined as an aquifer or portion of an aquifer that supplies any public water system or that contains a sufficient quantity of ground water to supply a public water system, and currently supplies drinking water for human consumption, or that contains fewer than 10,000 mg/l total dissolved solids (TDS) and is not an exempted aquifer. Aquifers are presumed to be USDWs unless they have been specifically exempted or if they have been shown to fall outside the definition of a USDW (e.g., over 10,000 mg/L TDS). We recommend that the Final RMP/EIS clarify this broad potential scope of USDW designations. We also suggest that the Final RMP/EIS include a commitment that future oil and gas development project-level NEPA analyses will include monitoring plans and sampling programs that track groundwater impacts as drilling and production operations occur.

4. Wetlands and Aquatic Habitat

The BLM collaborated with a number of organizations including the Colorado Natural Heritage Program, Colorado Parks & Wildlife, county governments and conservation districts to develop an updated inventory of aquatic resources in the Draft RMP/EIS. We recommend that the Final RMP/EIS include a discussion about this collaboration and any planned future participation in actions that inventory and map aquatic resources to demonstrate the BLM's commitment to ensure current information on aquatic resources is considered in future decision-making.

The Draft RMP/EIS identifies that even though riparian areas and wetlands occupy only a small percentage of land these areas provide a wide range of functions critical to many different wildlife species, water quality, scenery, and recreation (page 3-42). Wetland plants in unique wetlands such as springs and seeps in the planning area can be difficult to replace (e.g., compensatory mitigation

through restoration or creation may not be feasible) so these unique wetlands should be avoided if possible.

The Final RMP/EIS, and subsequently the Record of Decision (ROD) should include the following measures and commitments to increase the level of certainty regarding the application and implementation of aquatic resource protection and mitigation measures:

- A list of the specific BMPs that BLM may require in order to protect groundwater resources
- An explanation of the circumstances under which the BMPs would be applied (e.g., proximity to wetlands or riparian areas)
- An explanation of how BLM would monitor compliance with these BMPs

B. Wild and Scenic Rivers

1. Suitability Determinations for Inclusion in the National Wild and Scenic River System

The Draft RMP/EIS identified 26 BLM-managed river segments in the CRVFO planning area as eligible for inclusion in the NWSRS. Pursuant to BLM Manual 8351, a river segment must be free flowing and contain at least one outstandingly remarkable value (ORV) to be eligible for this designation. The BLM Manual 8351 provides the agency with specific policies for conducting the WSR suitability studies within the RMP planning process. The BLM studied the 26 eligible river segments in the Final Wild and Scenic River Suitability Report (April 2011) to determine if they are suitable for inclusion in the NWSRS. In this study, the BLM found 22 of these 26 eligible river segments to be unsuitable for inclusion in the NWSRS, and 4 to be suitable. The 22 river segments designated as unsuitable include:

- One segment of each of the following: Abrams Creek, Battlement Creek, Eagle River, Egeria Creek, Hack Creek, Mitchell Creek, No Name Creek, Rock Creek and Thompson Creek
- Five segments of the East Middle Fork Parachute Creek complex, including: East Middle Fork Parachute Creek (one segment), Northwater Creek (one segment) and Trapper Creek (Segments 1, 2 and 3)
- Eight segments of the East Fork Parachute Creek complex, including: East Fork Parachute Creek (Segments 1 and 2), First Anvil Creek (Segments 1 and 2), Golden Castle Creek (one segment), JQS Gulch (one segment) and Second Anvil Creek (Segments 1 and 3)

Assuming the BLM selects its Preferred Alternative for this Draft RMP/EIS, these 22 unsuitable segments would no longer be managed to protect their free-flowing nature and ORVs. The Draft RMP/EIS does not provide a full explanation of the basis for this decision. As it stands now, Appendix C presents only a brief summary (Table ES-1, page C-3 and C-4) of the suitability determination results, and only general reasons (page C-3) why BLM determined that certain segments are unsuitable. For example, the following explanations were provided:

- BLM manages only a small fraction of the lands in the stream corridor, and local governments have not indicated an interest in managing lands under their jurisdiction as WSRs
- BLM concluded that several stream segments with multiple and pristine ORVs would be

adequately managed under protective designations proposed in the RMP

- A high number of eligible stream segments have only one ORV. The BLM determined that existing protective laws and management prescriptions in the proposed plan are the best tools for managing these values.

EPA therefore recommends that the document be revised to include an explanation of the NWSRS suitability decision made for each of the 26 eligible river segments, using the suitability factors outlined in BLM Manual 8351. This information will provide for full disclosure in the RMP/EIS of how BLM decided on whether or not the river segments were suitable for NWSRS.

2. *Management Options for River Segments Identified as Suitable for Inclusion in the NWSRS*

The Draft RMP/EIS should include additional information clarifying the differences in how BLM plans to manage river segments identified as suitable for inclusion in the NWSRS under Alternatives B1 and B2 in order to allow the reader to compare these two alternatives for consideration in the Preferred Alternative. The impacts analysis for Alternative B2 identifies long-term adverse impacts when compared to Alternatives A and C (page 4-723); however, no comparison to Alternative B1 is provided. From the information provided in the Draft RMP/EIS, Alternative B1 appears to be more protective of river segments that have been determined to be suitable for inclusion in the NWSRS than Alternative B2. Since the BLM did not identify whether Alternative B1 or Alternative B2 will be included in the Preferred Alternative, the EPA recommends that the Final RMP/EIS fully disclose the difference in impacts between Alternative B1 and Alternative B2 to illustrate to the reader the decision-making process leading to the selection of either of the two options.

C. Air Quality – Modeled Decreases in Ozone

The air quality mitigation strategies identified for the Preferred Alternative in the Draft RMP/EIS (page 4-26) represent an essential element of BLM's stated objective of managing oil and gas-related air pollutant emissions to protect human health and reduce visibility-impairment in accordance with the reasonable progress goals established within the Colorado Regional Haze State Implementation Plan (page 4-26). EPA supports this approach and recommends including these mitigation measures in the ROD and ensuring operating conditions in APDs require these emission reductions.

EPA notes that the air quality model predicts decreases in ozone concentrations in the RMP area (see Appendix M of the Air Resources Technical Support Document (ARTSD) Figures M-7 through M-61). The EPA questions the logic of this modeling prediction. To ensure full disclosure, we recommend that the ARTSD and the Draft RMP/EIS include a qualitative discussion substantiating these results.

D. Areas of Critical Environmental Concern

The Draft RMP/EIS appears not to discuss the reason why the Colorado River Seeps Potential ACEC is not included in the Preferred Alternative. To be eligible for designation as an ACEC, an area must meet the relevance and importance criteria described in 43 Code of Federal Regulations (CFR) 1610.7-2 and BLM Manual 1613, *Areas of Critical Environmental Concern*, and need special management. This potential ACEC meets the relevance and importance criteria (Appendix E, Evaluation of Proposed Areas of Critical Environmental Concern p. 25) to support an ACEC designation. The unique natural communities of hanging gardens, springs, fens and seeps present in this area have the potential to be

eliminated without additional protections. Since the Colorado River Seeps Potential ACEC meets the relevance and importance criteria for ACEC designation, we recommend that it be included in the Preferred Alternative.

The EPA's Rating

Based on our review, the EPA is rating the Draft RMP/EIS Preferred Alternative (with either the Alternative B1 or Alternative B2 options) as "Environmental Concerns – Insufficient Information" (EC-2). The "EC" rating means that EPA's review has identified potential impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts. The "2" rating means that the Draft RMP/EIS does not contain sufficient information for the EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment. We have enclosed a description of the EPA's rating system for your convenience (Attachment 3).

We appreciate the opportunity to comment on this document, and hope our suggestions for improving it assist you with preparation of the Final RMP/EIS. We would be happy to meet to discuss these comments and our suggested solutions. If you have any questions or requests, please feel free to contact either me at 303-312-6925 or David Fronczak of my staff at 303-312-6096 or by email at fronczak.david@epa.gov.

Sincerely,

Suzanne J. Bohan
Director, NEPA Compliance and Review Program
Office of Ecosystems Protection and Remediation

Enclosures (3)

ATTACHMENT 1
EPA Detailed Comments Regarding Water
CRVFO Draft RMP/EIS

General Comments

In addition to the Clean Water Act (CWA), the Safe Drinking Water Act is also one of the primary regulatory frameworks for protection of water resources and should be briefly discussed in Section 3.2.4. An example of this additional discussion can be found in the water resources section of the Kremmling Draft RMP/EIS.

It is not clear if the term "municipal watershed", as used in the document, is the same as a CDPHE delineated source water area. To ensure clarify and full disclosure, please provide a definition of the term "municipal watershed" in the Final RMP/EIS, and clarify whether Figure 3.2.4-2, Drinking Water Protection Areas includes all public water supplies. If it does not, please include all public drinking water supplies.

Groundwater Resources

The EPA encourages resource management and development decisions that support natural gas extraction and enhanced oil recovery operations while protecting public health and the environment. Oil and gas extraction activity typically requires using large amounts of water, including freshwater. Where feasible, the EPA recommends recycling and reuse of production water to conserve drinking water and groundwater resources. More frequent reuse and recycling can also provide additional public health and environmental benefits including:

- Reduced need for evaporation ponds which can:
  - Reduce the potential for ground water or surface water contamination; and
  - Reduce air emissions (odor, volatile organic compounds, and hazardous air pollutants).

- Reduced need for subsurface disposal (underground injection control (UIC) injection wells) which leads to associated energy and cost savings.

Surface Water

The CWA § 303(d) list information in Table 3.2.4-1 of the Draft RMP/EIS is not current and we recommend updating it with 2010 information from CDPHE. All updates should also be reflected in Figure 3.2.4-2, Water Resources Map. We recommend contacting Aimee Konowal, Environmental Data Unit Manager, CDPHE, at 303-692-3530 for assistance obtaining this information.

To ensure full disclosure, the EPA recommends adding the State of Colorado's Integrated Water Quality Monitoring and Assessment Report under CWA § 305(b) to the list of sources of water quality information. This document, updated biennially, characterizes Colorado's water quality, identifies widespread water quality problems of significance, and describes various projects implemented to restore and protect Colorado's waters. In addition, the Colorado Statewide Water Quality Management Plan has basin-specific chapters that provide useful information about water quality and quantity. Both documents can be accessed at http://www.cdphe.state.co.us/op/wqcc/Reports/Reports.html.

Stipulations Applicable to Fluid Minerals Leasing

BLM's proposed *Stipulation CRV-NSO-4 Designated Municipal Watershed Areas* for inclusion in the Preferred Alternative prohibits surface occupancy and surface disturbing activities "within municipal watersheds providing domestic water." Please include in the Final RMP/EIS BLM's definition of a municipal watershed in order to clarify the extent to which this stipulation covers public water supplies.

BLM proposes *Stipulation CRV-NSO-5 Streamside Management Zones* for inclusion in the Preferred Alternative. This stipulation (Appendix B, page B-19) prohibits surface occupancy and surface disturbing activities within 50 feet of the ordinary high water mark of any hydrologic feature (i.e., ephemeral, intermittent, and perennial channels; wetlands; lakes; fens; and springs). The EPA recommends increasing the buffer from 50 feet to 325 feet, which would be consistent with protections provided for the Kremmling Draft RMP/EIS Preferred Alternative. Surface occupancy between 50 and 325 feet of the ordinary high water mark could cause adverse impacts to water quality through erosion or surface spills. Since perennial, intermittent and ephemeral streams flow downstream into existing fisheries and water supplies, this modification to the stipulation will help prevent flooding related problems, help maintain and protect water quality and stream stability, and reduce sediment downstream.

An existing NSO stipulation, *GS-NSO-2 Riparian and Wetland Zones*, is recommended by the BLM to only apply to Alternatives A and C. Excluding this existing stipulation from the Preferred Alternative would remove existing protections prohibiting surface occupancy and surface-disturbing activities within approximately 1,700 acres of riparian area. The Draft RMP/EIS does not explain why this existing stipulation was not carried into all of the alternatives. As an example, the Kremmling Draft RMP/EIS provides for No Surface Occupancy within 325 feet of riparian areas and wetlands. The EPA recommends that either an explanation of the reasoning for removing this existing stipulation be provided in the Final RMP/EIS or protections under the existing *Stipulation GS-NSO-2 Riparian and Wetland Zones* continue to be provided in the Preferred Alternative.

ATTACHMENT 2
Recommended Groundwater and Surface Water Protection Measures
CRVFO Draft RMP/EIS

The EPA recommends that the BLM develop lease stipulations designed specifically to protect current and future drinking water resources during this RMP revision. This will take advantage of an important opportunity to avoid and mitigate potential significant impacts to water resources within the planning area. The EPA recommends that the BLM consider requiring oil and gas operators to employ where necessary the following measures in the Final RMP/EIS to protect ground and surface waters. We provide these recommendations with the understanding that their appropriateness will depend on the location of development activity relative to sensitive water resources and knowledge that their applicability should be evaluated carefully to avoid inadvertently creating unintended environmental impacts.

- Sole Source Aquifers (if designated in the future)
  - No Leasing
- Source Water Protection Areas and Well Head Protection Areas
  - No Surface Occupancy in Municipal Watersheds
  - No Surface Occupancy in Groundwater Zones 1-3 (for example, the Uinta National Forest Oil and Gas Leasing EIS in Utah provides for No Surface Occupancy in Groundwater Zones 1-3)
  - No Surface Occupancy in Surface Water Zone 1 (for example, the Uinta National Forest Oil and Gas Leasing EIS in Utah provides for No Surface Occupancy in Surface Water Zones 1-2)
  - If No Surface Occupancy stipulations are not required for the zones above, impose Controlled Surface Use Stipulations within Municipal Watersheds, Colorado Source Water Protection Ground Water Zones 1-3 and Surface Water Zones 1-2 including but not limited to:
    - Closed loop drilling systems
    - Line surface impoundment ponds (evaporation ponds or drilling pits) with synthetic liners and subsequently decommission by removing all contaminants and liner and reclaiming the area with natural vegetation
    - Identify private wells and set stipulations to be protective (e.g., no occupancy within immediate area, collect baseline data on groundwater, long-term monitoring, replacement of water supply if contaminated, etc.)
  - In leases already permitted but not drilled, impose Conditions of Approval for APDs including but not limited to the Controlled Surface Use stipulations listed above.
- For areas with unconfined shallow groundwater (as determined by viewing well logs and available U.S. Geological Survey information), and since the shallower the depth to water the more sensitive an aquifer is to contamination, consider:
  - No Surface Occupancy
  - Prohibit use of evaporation ponds in proximity to shallow aquifers
  - Review the geology of shallow aquifers to determine well construction requirements, which may include cementing to surface and drilling with a fresh water mud system
- General recommendations for standard lease stipulations/best management practices to consider:
  - A general well design requirement to set surface casing and cement to a specific formation or depth if there are underlying USDWs which warrant protection

- A requirement that surface casing be placed to below the lowermost USDW and set into a confining (e.g., shale) layer
- A requirement for an intermediate string of casing and cement may, where appropriate, in the event of encountering deep aquifers
- Specify in the RMP that future multiple-well oil and gas projects will need a water resource management plan to address water consumption and produced water disposal, including identifying water recycling opportunities
- Specify in the RMP that future multiple-well oil and gas projects will need a Baseline and Long-Term Water Quality Monitoring Plan (the BLM Pinedale Anticline project and the U.S. Forest Service Eagle Prospect project in Wyoming, and the BLM West Tavaputs project in Utah are examples where similar monitoring plans have been established)

- General recommendations for surface water protection:
  - No Surface Occupancy for 100-year flood plains (for example, the Grand Mesa Uncompahgre and Gunnison National Forest Oil and Gas Leasing EIS provides for No Surface Occupancy in floodplains)

ATTACHMENT 3
U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements

Definitions and Follow-Up Action*

Environmental Impact of the Action

LO - - Lack of Objections: The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC - - Environmental Concerns: The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO - - Environmental Objections: The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU - - Environmentally Unsatisfactory: The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 - - Adequate: EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 - - Insufficient Information: The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new, reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 - - Inadequate: EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.